

**DESCRIPTION OF THREE NEW SPECIES OF
HEISSHYGIA BRAILOVSKY FROM NEW GUINEA
(HEMIPTERA: HETEROPTERA: COREIDAE: COLPURINI)**

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Abstract.—*Heisshygia rolstoni* n. sp., *H. amplissima* n. sp., and *H. cephalota* n. sp., are described from New Guinea. A key is provided to distinguish the known species. The presence of ocelli in *Heisshygia* is shown to correct the original description.

Members of the genus *Heisshygia* Brailovsky are medium sized colpurine bugs characterized by having all femora ventrally armed, the tylus upturned to form a sharp horn, antennal segment I as well as the dorsal surface of each femur nodulose, each buccula with sharp mesial projection, and abdominal sternite VII of the female with plica and fissura. Although the biology of most species remains poorly known or completely unknown, one of the species discussed below appears to live on "Melastom" (*Medinilla* sp.) and was also collected under a log.

Brailovsky (1993) described the genus *Heisshygia*, stating that members of this genus lacked ocelli. Further study of additional specimens of *H. novoguineensis* Brailovsky however, revealed that ocelli are present. They are very small and hidden, and may require cleaning of the cephalic capsule to distinguish. This character is further confirmed in the three new species herein described.

Characters previously utilized to separate *Heisshygia* from related genera remain valid except that ocelli are present in the whole group.

The following abbreviations are used in the text: Bernice P. Bishop Museum, Honolulu, Hawaii (BPBM); Museum of Comparative Zoology, Harvard University (MCZH); Colección Entomológica del Instituto de Biología, Universidad Nacional Autónoma de México (UNAM).

All measurements are in millimeters.

***Heisshygia rolstoni*, new species**

Figs. 2, 5, 10, 11, 14, 15, 19, 20, 23, 25, 26, 28

Description. Male. Dorsal coloration. Dull orange brown; apex of scutellum and posterior angles of connexival segments II to VII pale yellow; head somewhat redder; antennal segments I to III pale orange hazel, IV orange hazel with basal and apical third darker; hemelytral membrane dark amber; abdominal segments bright orange red with few pale yellow or black spots. **Ventral coloration.** Bright orange hazel with yellow marks; head dull red brown with orange marks; rostral segments I to IV pale yellow; anterior lobe of each metathoracic peritreme creamy-yellow, posterior lobe orange hazel; legs light orange hazel. **Structures.** Head longer than wide; tylus surpassing juga, upturned to form sharp long horn; antenniferous tubercles unarmed; ocelli slightly tuberculate; bucculae rounded, each with sharp mesial pro-

jection; rostrum reaching medial third of abdominal sternite V. *Thorax. Pronotum.* Wider than long; collar wide; each anterior angle produced forward as small rounded lobe; anterior half of anterolateral margin obliquely sinuate, posterior half convex; humeral angles rounded, slightly exposed, distinctly elevated above disc; posterior margin straight; calli flat; pronotal disc with four projections arranged in transverse line (Fig. 2). *Legs.* Femora armed with two rows of spines along ventral surface; dorsally nodulose. *Scutellum.* Wider than long, apex subacute. *Hemelytra.* Macrop-terous, reaching posterior margin of last abdominal segment. *Genitalia. Genital cap-sule.* Posterolateral angles broadly produced, with short bifurcate medial projection (Figs. 5, 10, 11). *Parameres.* Figs. 14, 15.

Measurements. Length of head: 1.84; width across eyes: 1.60; interocular space: 0.92; interocellar space: 0.40; preocular distance: 1.18; length of antennal segments: I, 1.28; II, 1.84; III, 1.36; IV, 1.36. Pronotal length: 1.92; width across frontal angles: 1.44; width across humeral angles: 3.64. Scutellar length: 1.40; width: 1.56. Total body length: 10.20.

Female. *Color.* Similar to male. *Structures. Genital segments.* Abdominal sternite VII with plica and fissura; plica triangular, reaching medial third of sternite VII; gonocoxae I enlarged dorso-ventrally, in posterior view contiguous, in lateral view with upper margin broad, slightly convex, and lower margin subglobose apically; each paratergite VIII short, triangular, with spiracle visible; each paratergite IX nearly square, larger than VIII (Figs. 19, 20, 23). *Spermatheca.* Bulb elongate, duct relatively coiled, chambers globose (Fig. 25).

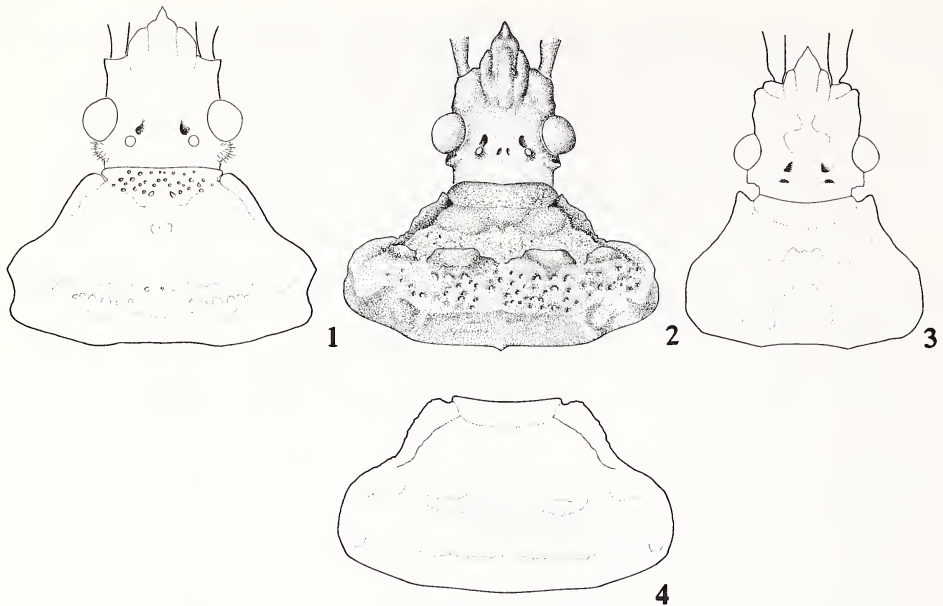
Measurements. Length of head: 1.94; width across eyes: 1.70; interocular space: 1.04; interocellar space: 0.47; preocular distance: 1.22; length of antennal segments: I, 1.40; II, 2.00; III, 1.48; IV, 1.28. Pronotal length: 1.96; width across frontal angles: 1.48; width across humeral angles: 3.76. Scutellar length: 1.48; width: 1.60. Total body length: 10.90.

Habitat. Collected on "Melastom" (*Medinilla* sp.) and under log.

Holotype male. PAPUA NEW GUINEA: NE: Edie Ck., near Wau (2050 mts.), 31.III.66. J. L. Gressitt. Deposited in BPBM.

Paratypes. Five males, five females labeled: PAPUA NEW GUINEA: NE: Edie Ck., near Wau (2,050–2,300 mts.), VII.65, 31.III.66 and 3.XI.66. J. Sedlacek, J. L. Gressitt and C. A. Samuelson; deposited in BPBM and UNAM. Four males, four females labeled: PAPUA NEW GUINEA: Mt. Kaindi (2,350 mts.), 23.III.66, 15.IV.66, 30.V.66 and 17.VI.66. J. L. and M. Gressitt; deposited in BPBM and UNAM. One male labeled: PAPUA NEW GUINEA: NE: Wau (2,400 mts.), 9–12.I.62. J. and M. Sedlacek and G. Monteith; deposited in BPBM. One male labeled: PAPUA NEW GUINEA: NE: Bulldog Rd., 4 km. S. Edie Ck. (2,405 mts.), 4–10.VII.69. J. Sedlacek; deposited in BPBM. One male labeled: PAPUA NEW GUINEA: NE: MOROBE DISTRICT: Mt. Kaindi (2,300 mts.), 15.III.67. J. J. H. Szent Ivany; deposited in BPBM. Two males, one female without locality; deposited in BPBM.

Discussion. The only other previously known species, *H. novoguineensis*, is characterized by the armed antenniferous tubercles (Fig. 1), rounded scutellar apex, flat pronotal disc with posterior median depression and middle third slightly tuberculate, hemelytra micropterous, with clavus and corium fused, membrane narrow, and pos-



Figs. 1-4. Head and pronotum of *Heissshygia* spp. Fig. 1. *H. novoguineensis*. Fig. 2. *H. rolstoni*. Fig. 3. *H. cephalota*. Fig. 4. *H. amplissima*.

terior margin of the genital capsule with two short posterolateral projections surrounding mesial broad plate (Fig. 7).

Heissshygia rolstoni, new species, has the antenniferous tubercles unarmed (Fig. 2), scutellum with subacute apex, pronotal disc with four projections arranged in transverse line (Fig. 2), hemelytra macropterous, reaching posterior margin of last abdominal segment, and posterolateral angles of the genital capsule laterally produced and between them a short bifurcate plate (Figs. 5, 10, 11).

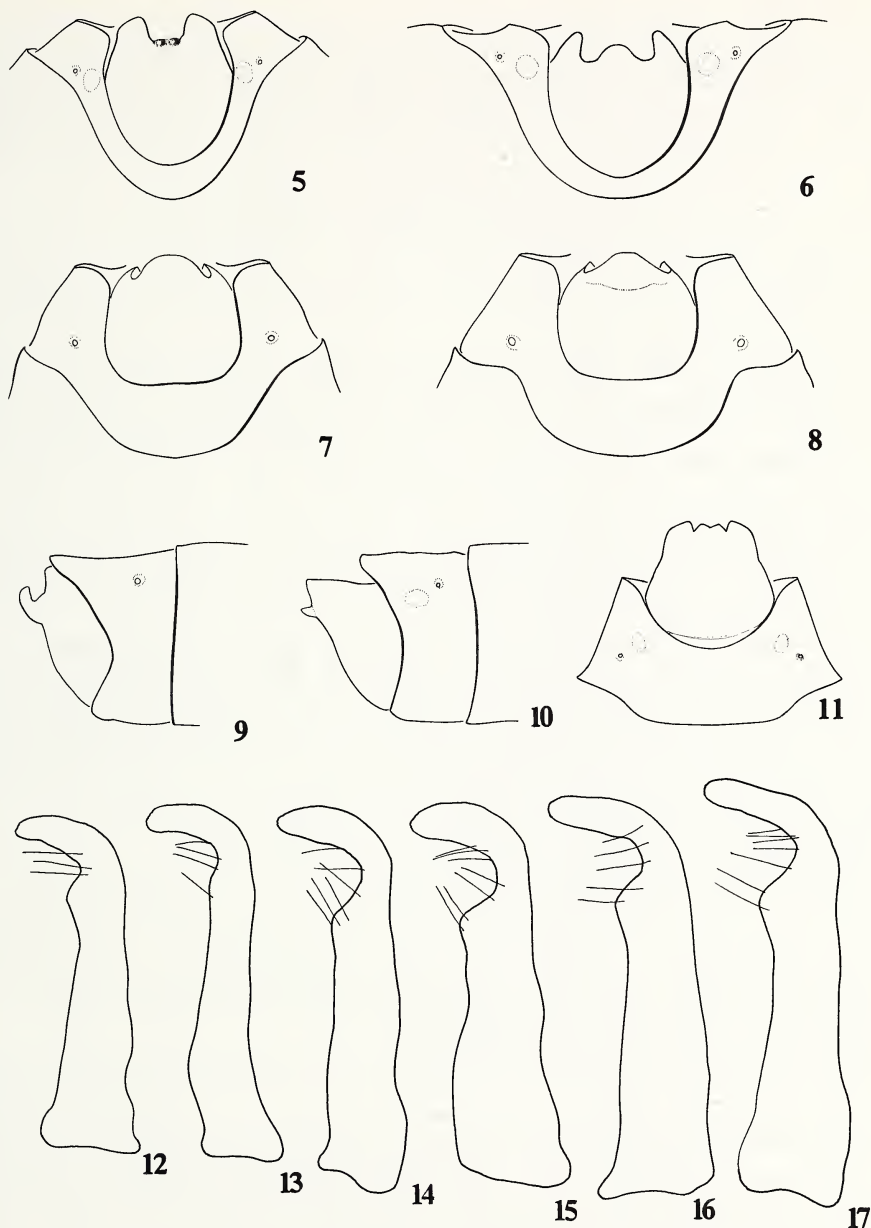
Etymology. I am pleased to name this new species for Dr. L. H. Rolston, distinguished hemipterist, in recognition of his many fundamental contributions to the study of Neotropical pentatomids.

Distribution. Known only from the type locality in New Guinea.

***Heissshygia amplissima*, new species**

Figs. 4, 6, 8, 9, 12, 13, 18, 21, 24, 29, 30

Description. Male. Dorsal coloration. Dull orange brown; apex of scutellum and posterior angles of connexival segments II to VII pale yellow; antennal segments I to III pale orange hazel, IV orange hazel with base and apex darker; hemelytral membrane dark amber; abdominal segments bright orange red with few pale yellow or black spots. **Ventral coloration.** Bright orange hazel; head dull red brown with orange marks; rostral segments I to IV pale yellow; anterior lobe of each metathoracic peritreme creamy-yellow, posterior lobe black; legs light orange hazel. **Structures.** Head longer than wide; tylus surpassing juga, upturned to form sharp long horn; antenniferous tubercles unarmed; ocelli slightly tuberculate; bucculae like *H.*



Figs. 5–17. Male genital capsule of *Heisshygia* spp. Figs. 5–7. Posterior view. Fig. 5. *H. rolstoni*. Fig. 6. *H. amplissima*. Fig. 7. *H. novoguineensis*. Fig. 8. Ventral view of *H. amplissima*. Figs. 9, 10. Lateral view. Fig. 9. *H. amplissima*. Fig. 10. *H. rolstoni*. Fig. 11. Ventral view of *H. rolstoni*. Figs. 12–17. Parameres of *Heisshygia* spp. Figs. 12, 13. *H. amplissima*. Figs. 14, 15. *H. rolstoni*. Figs. 16, 17. *H. novoguineensis*.

rolstoni; rostrum reaching abdominal sternite VI. *Thorax. Pronotum.* Wider than long; collar wide; each anterior angle produced forward as large conical tooth; anterior half of anterolateral margin obliquely sinuate, posterior half convex; humeral angles rounded, slightly exposed, distinctly elevated above disc; posterior margin straight; calli flat; pronotal disc with four projections arranged in transverse line (Fig. 4). *Legs.* Like *H. rolstoni*. *Scutellum.* Wider than long, apex subacute. *Hemelytra. Macropterous condition* (in both sexes). Reaching posterior margin of last abdominal segment. *Submacropterous condition* (in both sexes). Reaching posterior margin of abdominal segment VI. *Genitalia. Genital capsule.* Posterolateral angles narrowly produced and between them with a wide medial projection (Figs. 6, 8, 9). *Parameres.* Figs. 12, 13.

Measurements. Male macropter, male submacropter. Length of head: 1.72, 1.88; width across eyes: 1.58, 1.70; interocular space: 0.90, 0.96; interocellar space: 0.40, 0.42; preocular distance: 1.14, 1.21; length of antennal segments: I, 1.20, 1.40; II, 1.80, 1.86; III, 1.24, 1.34; IV, 1.24, 1.44. Pronotal length: 1.96, 2.08; width across frontal angles: 1.60, 1.62; width across humeral angles: 3.36, 3.44. Scutellar length: 1.48, 1.52; width: 1.52, 1.56. Total body length: 9.76, 10.65.

Female. *Color.* Similar to male. *Structures. Genital segments.* Abdominal sternite VII with plica and fissura; plica triangular, wider, reaching posterior third of sternite VII; gonocoxae I enlarged dorso-ventrally, in posterior view contiguous, in lateral view straight; paratergite VIII and IX similar to *H. rolstoni*.

Measurements. Female macropter, female submacropter. Length of head: 1.84, 1.94; width across eyes: 1.72, 1.80; interocular space: 1.00, 1.00; interocellar space: 0.48, 0.48; preocular distance: 1.24, 1.24; length of antennal segments: I, 1.40, 1.40; II, 2.08, 1.96; III, 1.44, 1.36; IV, 1.44, 1.32. Pronotal length: 2.24, 2.16; width across frontal angles: 1.88, 1.76; width across humeral angles: 3.92, 3.96. Scutellar length: 1.56, 1.54; width: 1.74, 1.62. Total body length: 11.40, 11.60.

Holotype male. PAPUA NEW GUINEA: NE: MOROBE PROVINCE: Mt. Por (2,300–2,500 mts.), 2–3.XII.79. J. L. Gressitt. Deposited in BPBM.

Paratypes. One female labeled: PAPUA NEW GUINEA: NE: MOROBE PROVINCE: Mt. Por (2,300–2,500 mts.), 2–3.XII.79. J. L. Gressitt; deposited in BPBM. Two males, one female labeled: PAPUA NEW GUINEA: NE: Mt. Missim (2,400 mts.), 22–30.IV.68. J. L. Gressitt, R. C. A. Rice, J. Sedlacek; deposited in BPBM and UNAM. One female labeled: PAPUA NEW GUINEA: Bulldog Rd. (2,550 mts.), 27.VII.69. J. L. Gressitt; deposited in BPBM.

Discussion. *Heisshygia amplissima*, new species is easily recognisable by the medial wide projection of the posterior margin of the male genital capsule, which is enclosed by relatively slender arm-like posterolateral angles (Figs. 6, 8, 9), and the anterior angles of the pronotum produced forward as large conical teeth (Fig. 4). In *H. rolstoni* the posterolateral angles of the male genital capsule are robust, and the posterior margin has a short bifurcate medial projection (Figs. 5, 10, 11). Also the anterior angles of pronotum are produced as small rounded lobes (Fig. 2).

In *H. amplissima*, abdominal sternite VII of the female has a wide triangular plica, extending until the posterior third of that sternite, and the gonocoxae I in lateral view is straight (Figs. 18, 21, 24). In *H. rolstoni*, the plica is shorter, narrowed, and the gonocoxae I in lateral view has the upper margin broad and slightly convex, and lower margin apically subglobose (Figs. 19, 20, 23).

The parameres of *H. amplissima*, *H. novoguineensis* and *H. rolstoni* differs slightly as is shown in the figures 12–17.

Etymology. The specific epithet of the species is used to refer to the broad plate of the posterior margin of the male genital capsule.

Distribution. Known only from the type locality in New Guinea.

***Heisshygia cephalota*, new species**

Figs. 3, 22

Description. Female. *Dorsal coloration.* Dull orange brown; apex of scutellum and posterior angles of connexival segments II to VII dirty yellow; head and antennal segment I somewhat redder; antennal segments II to III pale orange hazel, IV orange hazel with basal third darker; abdominal segments IV and V with some bright orange red marks. *Ventral coloration.* Bright orange hazel; rostral segments I to IV, posterior third of acetabulae and numerous maculations on abdominal sternites III to VII pale yellow to pale orange; anterior lobe of each metathoracic peritreme creamy yellow, posterior lobe black; coxae, trochanters and femora bright orange hazel (base of femora with yellow maculations); tibiae pale orange with two yellow rings; tarsi pale orange. *Structures.* Head subquadrate, nearly as long as wide; antenniferous tubercles unarmed; ocelli hidden, difficult to distinguish; tylus and bucculae like *H. rolstoni*; rostrum reaching posterior third of abdominal sternite VI. *Thorax. Pronotum.* Wider than long; collar wide; anterior angles produced forward as large conical teeth; anterior half of anterolateral margin obliquely straight, posterior half convex; humeral angles rounded, not exposed or elevated above disc; posterior margin straight; calli flat; pronotal disc with four small projections, posteriorly concave, with deep median depression (Fig. 3). *Legs.* Like *H. rolstoni*. *Scutellum.* Wider than long, apex acute. *Hemelytra.* Staphylinoid, reaching posterior third of abdominal segment III, contiguous for their entire length; clavus and corium fused; membrane represented by small flap. *Genitalia. Genital segments.* Abdominal sternite VII with plica and fissura; plica reaching posterior third of sternite VII; gonocoxae I enlarged dorso-ventrally, in posterior view contiguous, in lateral view straight and apically subglobose; paratergite VIII and IX similar to *H. rolstoni*.

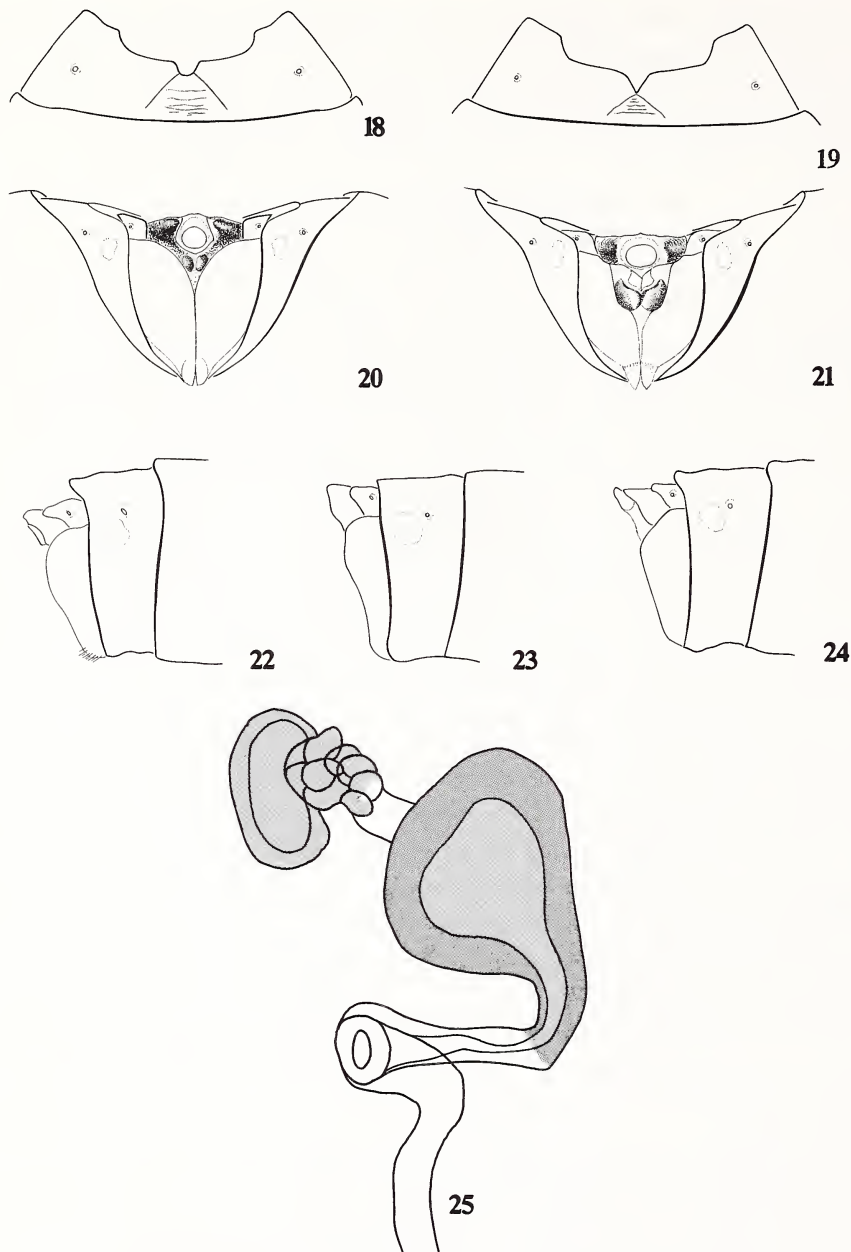
Measurements. Length of head: 1.76; width across eyes: 1.74; interocular space: 1.10; interocellar space: 0.46; preocular distance: 1.20; length of antennal segments: I, 1.40; II, 1.72; III, 1.28; IV, 1.08. Pronotal length: 1.68; width across frontal angles: 1.68; width across humeral angles: 3.00. Scutellar length: 1.04; width: 1.20. Total body length: 10.30.

Male. Unknown.

Holotype female. NEW GUINEA: Mt. Wilhelm (Bismarck Rge.) (10,000 ft), X.44. Darlington. Deposited in BPBM. No paratypes.

Discussion. This species is most closely related to *H. novoguineensis*; both have the hemelytra reduced with the clavus and corium fused, the pronotal disc posteriorly with a deep median depression, and ocelli obscure.

Heisshygia cephalota has the head subquadrate, nearly as long as wide, antenniferous tubercles unarmed, hemelytra staphylinoid, reaching posterior third of abdominal segment III and contiguous along the middle line, scutellum with apex acute, and gonocoxae I in lateral view straight (Fig. 22). In *H. novoguineensis*, the head is



Figs. 18, 19. Abdominal sternite VII of the female showing the plica and fissura in *Heisshygia* spp. Fig. 18. *H. amplissima*. Fig. 19. *H. rolstoni*. Figs. 20–24. Female genital segments of *Heisshygia* spp. Figs. 20, 21. Posterior view. Fig. 20. *H. rolstoni*. Fig. 21. *H. amplissima*. Figs. 22–24. Lateral view. Fig. 22. *H. cephalota*. Fig. 23. *H. rolstoni*. Fig. 24. *H. amplissima*. Fig. 25. Spermatheca of *H. rolstoni*.

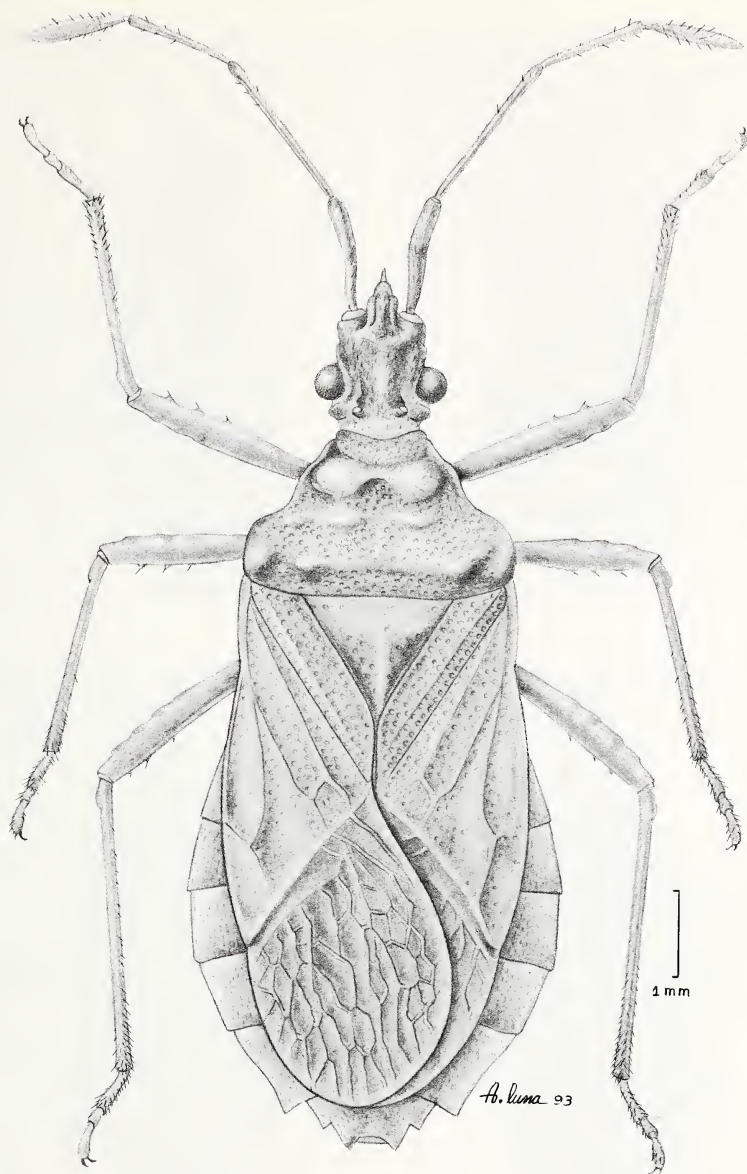
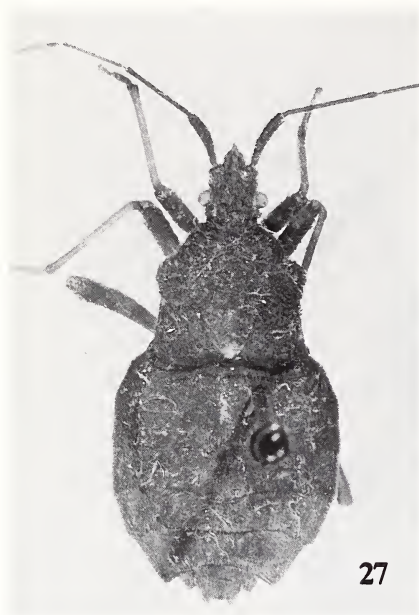


Fig. 26. Dorsal view of *Heisshygia rolstoni*.

pentagonal, clearly longer than wide, antenniferous tubercles with short lateral lobes like projections, hemelytra micropterous, widely separated from each other, leaving the abdomen exposed medially, scutellum with apex globose, and gonocoxae I in lateral view emarginate, with upper margin slightly convex (Figs. 1, 27).

Etymology. Named for its peculiar shape head.



Figs. 27–30. Dorsal view of *Heisshygia* spp. Fig. 27. *H. novoguineensis*. Fig. 28. *H. rolstoni*. Figs. 29, 30. *H. amplissima*.

Distribution. Known only from the type locality in New Guinea.

KEY TO THE KNOWN SPECIES OF *HEISSHYGIA* BRAILOVSKY

1. Hemelytra micropterous to staphylinoid; clavus and corium fused; ocelli obscure; pronotal disc posteriorly with deep depression 2
- Hemelytra macropterous to submacropterous; clavus and corium distinct; ocelli slightly tuberculate; pronotal disc posteriorly without depression 3
2. Head pentagonal, clearly longer than wide; hemelytra micropterous, widely separated from each other; scutellum with apex globose *H. novoguineensis* Brailovsky
- Head subquadrate, nearly as long as wide; hemelytra staphylinoid, contiguous medially; scutellum with apex acute *H. cephalota*, new species
3. Pronotum with anterior angles narrowly rounded (Fig. 2); genital capsule of the male with the posterior margin medially produced in a short and bifurcate plate (Figs. 5, 10, 11); gonocoxae I in lateral view with upper margin broad and slightly convex (Figs. 19, 20, 23) *H. rolstoni*, new species
- Pronotum with anterior angles broadly exposed (Fig. 4); genital capsule of the male with the posterior margin projected in a medium and wide plate (Figs. 6, 8, 9); gonocoxae I in lateral view straight (Figs. 18, 21, 24) *H. amplissima*, new species

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LITERATURE CITED

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